

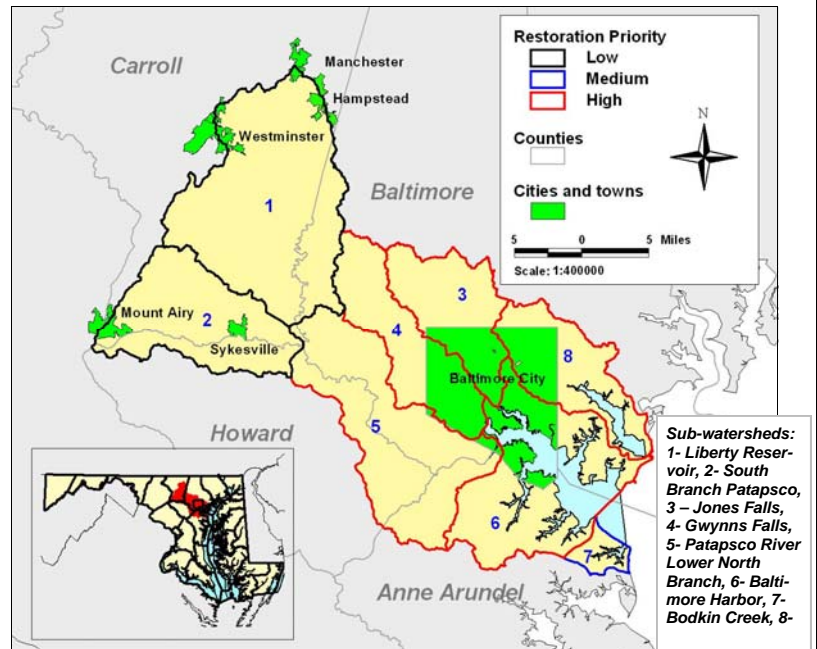
# Patapsco & Back Rivers

## Water Quality and Habitat Assessment

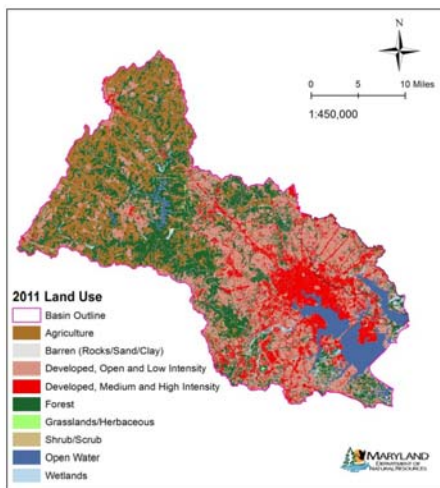
### Summary

### Patapsco and Back Rivers Basin

The Patapsco and Back River basin drains approximately 600 square miles in Baltimore City and portions of Anne Arundel, Baltimore, Carroll, and Howard Counties. The majority of the basin lies in the Piedmont physiographic province, but the immediate area surrounding Baltimore Harbor lies in the Coastal Plain province. In 2010 there were approximately 1.5 million people living in the basin. The predominant land use in the basin is developed (59%), followed by forested areas (24%) and agricultural use (15%). Between 2000 and 2010, urban land use increased by 8%, while agricultural lands decreased by 6% and forests decreased by 3%. Impervious surfaces cover approximately 16% of the overall basin.



### Land Use/Land Cover



### Monitoring Stations



### Overall Conditions (1999–2015)

#### Patapsco River

- Fair water quality with high nitrogen levels
- Sediment levels have improved
- Impaired underwater grass habitat due to high algal densities and poor water clarity—grass coverage was 10% of restoration goal in 2015
- Severe algal blooms are common in summer
- Bottom dissolved oxygen levels are poor and bottom dwelling animals are not healthy

#### Back River

- Poor water quality in the tidal waters with high nitrogen and sediment levels
- Phosphorus and nitrogen levels have decreased
- Impaired underwater grass habitat due to high algal densities and poor water clarity—no grass coverage in the entire river in 2015
- Summer dissolved oxygen levels are good, and health of bottom dwelling animals has improved

## Improving Water & Habitat Quality: What's been done and what needs to be done?

- Upgrades to the four largest wastewater treatment plants that discharge to the Patapsco River are under construction and scheduled to be completed by 2016
- Upgrades to the Back River wastewater treatment plant will be completed by 2016; previous upgrades cut nitrogen loads in half and cut phosphorus loads by 87%
- Almost 190 septic system retrofits were completed between 2008 and 2013, and stormwater retrofits have reduced nitrogen loadings and prevented more than 77,000 pounds of nitrogen from entering the rivers since 2003
- In 2014, over 8,000 acres of cover crops were planted between growing seasons to absorb excess nutrients and prevent sediment erosion
- Fencing on almost 7,000 acres of farmland was used to keep livestock out of streams and prevent streambank erosion and over 2,500 acres of stream buffers are in place to reduce runoff and erosion
- A total of 140 containment structures have been built to store animal wastes and allow these nutrients to be applied to the land in the manner most effective to reduce runoff
- Over 3,700 acres have been protected and preserved through various programs such as Program Open Space, the Rural Legacy Program, the Maryland Environmental Trust, and the Maryland Agricultural Land Preservation Program
- Reducing sediment loadings from urban areas can be accomplished by retrofitting existing structures with alternatives to conventional building materials and methods that reduce the amount of impervious surfaces
- An integrative assessment of the water and habitat quality of the Patapsco and Back Rivers for 1985-2010 is available online at: <http://eyesonthebay.dnr.maryland.gov/eyesonthebay/documents/PatapscoandBackRiverWQandHAssessment2012.pdf>



Baltimore Harbor is located within the tidal portion of the Patapsco River

## What Can You Do?

There are many things you can do to help improve water and habitat quality of the Patapsco and Back Rivers.

- **Plant trees along streamside property.** Tree roots will slow erosion and absorb the flow of nutrient runoff.
- **Pump out septic tanks regularly (every 3-5 years).** A failing system can contaminate groundwater.
- **Conserve water.** Use rainwater for plants, take shorter showers, and turn off the faucet when brushing your teeth.
- **Drain gutter spouts into rain barrels or grassy areas.** This will reduce erosion, which adds sediment to rivers.
- **Carpool, or try biking or walking.** Exhaust fumes contain nitrogen oxides, which can end up in rivers and bay.
- **Dispose of household chemicals properly.** Toxic chemicals poured down the drain could end up in rivers.
- **Use fertilizer sparingly.** If you must fertilize, try doing it in autumn, when it will have less of an impact on rivers.
- **Support land protection initiatives.** Preserving existing green space is much easier than restoring degraded areas.
- **Get involved.** Let county, state, and local officials know that water and habitat quality is important to you.

Water quality data from the Patapsco & Back Rivers are available at: [www.eyesonthebay.net](http://www.eyesonthebay.net)

Please report fish kills, algal blooms, or any other events or problems to the toll-free Chesapeake Bay Safety and Environmental Hotline at **1-877-224-7229**

Larry Hogan, Governor

Mark Belton, DNR Secretary



Maryland Department of Natural Resources; Tawes State Office Building; 580 Taylor Avenue; Annapolis, Maryland 21401  
 Toll free : 1-(877)- 620-8DNR(8638) in Maryland      Out of state call: 410-260-8638      TTY users call via the Maryland Relay  
[www.dnr.maryland.gov](http://www.dnr.maryland.gov)



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*This summary is taken from the full Water Quality and Habitat Assessments prepared by members of the DNR Tidewater Ecosystem Assessment Division: Renee Karrh primary author  
 POC for this Summary: Brian Smith  
 410-260-8630; [brianr.smith@maryland.gov](mailto:brianr.smith@maryland.gov)*